LC-241
User Manual

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Specifications

- Voltage: 11V - 28V
- Max Current: 8A (12V/ 24V)
- Current Protection: 9A (12V/ 24V)
- Max Electric Speed: 240000 RPM (No Hall); 60000 RPM (Hall)

Functionality

Speed Control Model: Open loop or closed loop control.

**Speed Adjustment 1 (SPD2):**
- Internal potentiometer, reduce speed by rotating CCW and increase by rotating CW
- Short circuit between “SPD” and “GND”

**Speed Adjustment 2 (SPD):**
- Add a potentiometer between “SPD” and “GND”
- Linear relationship between speed and voltage
- Rotate internal potentiometer to MINIMUM in CCW direction

(Normally, we select 1 as it has a better result than an external potentiometer).

**Start/Stop (RUN):**
- Short circuit between “RUN” and “GND”
- Stop if open circuit

**Reverse (REV):**
- Short circuit between ”RUN”, ”REV” and ”GND”
- Stop if open circuit

**Pulses (PLS):**
- 3 pulses =1 RPM
- Pulse amplitude is +5VDC
- Rotor Speed = Electric Speed/Poles (pairs)
Notes

Protection Function: Current protection, thermal protection, voltage protection, motor stall protection, starting protection, etc.

When using the Hall Effect (suitable for 120 degree phase of sensor), be mindful of the +5v and GND. Connect the 3 wires of motor as 3 phase of Hall (if motor works abnormally, modify connection of motor wires). When power is applied, the controller will recognize if a Hall is connected.

Error Codes:

<table>
<thead>
<tr>
<th>Times of flashing</th>
<th>Items</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Over Current</td>
<td>The current of motor is has exceeded rated current.</td>
</tr>
<tr>
<td>2</td>
<td>Abnormal Voltage</td>
<td>Low or high voltage.</td>
</tr>
<tr>
<td>3</td>
<td>MOS Power tube</td>
<td>The temperature of power tube is above 110°C</td>
</tr>
<tr>
<td>4</td>
<td>Start Failure</td>
<td>The motor has malfunctioned.</td>
</tr>
<tr>
<td>5</td>
<td>Hardware Failure</td>
<td>MOS tube failure or Drive IC failure.</td>
</tr>
<tr>
<td>6</td>
<td>Motor Phase</td>
<td>Three phase motor is not connected.</td>
</tr>
</tbody>
</table>

Pin Out Diagram

![Pin Out Diagram Image]